

## AMENDMENTS TO THE CLAIMS

1. **(Currently amended)** A method of ~~modulating~~ inhibiting, reducing or otherwise delaying onset or progression of bone resorption in an animal, said method comprising:  
identifying an animal with an excess of bone resorption;  
administering to said animal an effective amount of a leptin or a derivative, homologue, analogue, chemical equivalent, antagonist or agonist thereof for a time and under conditions sufficient ~~for the modulation to inhibit, reduce or otherwise delay onset or progression of osteoclastogenesis bone resorption, wherein said modulation is a reduction.~~
2. **(Previously presented)** The method according to Claim 1 wherein the leptin or its derivative, homologue, antagonist or agonist comprises an amino acid sequence having at least 60% similarity to the amino acid sequence set forth in SEQ ID NO:2 after optimal alignment.
3. **(Previously presented)** The method according to Claim 1, wherein the leptin or its derivative, homologue, antagonist or agonist is encoded by the nucleotide sequence set forth in SEQ ID NO:1 or a nucleotide sequence having at least 60% similarity to SEQ ID NO:1 after optimal alignment or a nucleotide sequence capable of hybridizing to SEQ ID NO:1 or its complementary from under low stringency conditions at 42°C.
4. **(Canceled)**
5. **(Currently amended)** The method according to Claim ~~[[4]]~~ 1 wherein said bone resorption is a result of osteoporosis or Paget's disease.
6. **(Canceled)**
7. **(Canceled)**
8. **(Previously presented)** The method according to Claim 7 wherein the leptin or its derivative, homologue, antagonist or agonist comprises an amino acid sequence have at least 60% similarity to the amino acid sequence set forth in SEQ ID NO:2 after optimal alignment.
9. **(Previously presented)** The method according to Claim 6 wherein said bone resorption is a result of osteoporosis or Paget's disease.
10. **(Withdrawn)** A composition for modulating bone resorption, comprising a leptin having at least 60% similarity to the amino acid sequence set forth in SEQ ID NO:2 and one or more pharmaceutically acceptable carriers and/or diluents.

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11. **(Canceled)**
12. **(Canceled)**
13. **(Withdrawn)** A method for inhibiting osteoclastogenesis in an animal, said method comprising administering to said animal an amount of a leptin or a derivative, homologue, analogue, chemical equivalent or agonist thereof effective to antagonize the osteoclastic effect of osteoclast differentiation factor (ODF) by stimulation of Osteoprotegrin (OPG) and/or inhibition of receptor activator of NF-kappa  $\beta$  (RANK) expression.
14. **(Withdrawn)** The method according to Claim 13, wherein the leptin or its derivatives, homologue, antagonist or agonist comprises an amino acid sequence having at least 60% similarity to the amino acid sequence set forth in SEQ ID NO:2 after optimal alignment.
15. **(Withdrawn)** The method according to Claim 13 wherein the leptin or its derivative, homologue, antagonist or agonist is encoded by the nucleotide sequence set forth in SEQ ID NO:1 or a nucleotide sequence having at least 60% similarity to SEQ ID NO:1 after optimal alignment or a nucleotide sequence capable of hybridizing to SEQ ID NO:1 or its complementary form under low stringency conditions at 42°C.
16. **(Withdrawn)** The method according to Claim 13 wherein said bone resorption is a result osteoporosis or Paget's disease.
17. **(Previously presented)** The method of Claim 1 wherein said animal is a human.
18. **(Previously presented)** The method of Claim 6 wherein said animal is a human.
19. **(Withdrawn)** The method of Claim 13 wherein said animal is a human.